

### REMARKS

Reconsideration of this application is respectfully requested in view of the following remarks.

Claims 2-20 were pending in this application. No claims are amended, canceled, or added by this Response. Accordingly, claims 2-20 will remain pending herein upon entry of this Response. For the reasons stated below, Applicants respectfully submit that all claims pending in this application are in condition for allowance.

In the Office Action mailed December 4, 2009, claims 2 and 7-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 03/082480 to Matsunaga et al. ("Matsunaga") in view of U.S. Patent No. 4,340,011 to Wahren et al. ("Wahren"); and claims 3-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsunaga and Wahren in view of EP 0930641 A2 to Kiguchi et al. ("Kiguchi"). To the extent these rejections might still be applied to the claims currently pending in this application, they are respectfully traversed.

The combination of Matsunaga and Wahren forms the basis for all of the rejections set forth in the Office Action. Applicants respectfully submit, however, that all claims are patentable over the cited references because they do not disclose, teach, or suggest the claimed invention, wherein a dispensing tube includes a wall that defines a plurality of lateral outlet openings from which a second material is dispensed onto a layer of nanocrystalline first material, and wherein the lateral outlet openings are distributed along a length of the dispensing tube such that the second material is dispensed onto the layer of the nanocrystalline first material in a

homogenous layer having a predetermined width. As a result, all claims are allowable over Matsunaga, Wahren, and Kiguchi, alone or in combination.

Firstly, even if it is assumed that Matsunaga and Wahren could be combined (which combination Applicants submit is improper, as discussed below), the combination would not teach the claims. In particular, for example, any such dispenser would not have multiple outlets along a dispensing tube as claimed. The passageways or tubes 55 of Wahren are not material outlets but are merely conduits that connect and regulate flow between two chambers of an applicator (7). The outlet in Wahren is the portion denoted by 53, which actually dispenses material onto a web 3, not the tubes 55. In other words, the tubes 55 do not dispense material onto a substrate, as claimed, and thus any after-the-fact modification of Matsunaga would similarly not dispense material onto a layer through a plurality of lateral openings. The tubes 55 are structures internal to the applicator and are simply not "outlet openings" as claimed. Applicants respectfully submit that, looking solely at the Matsunaga and Wahren references, it is unfathomable that one of skill in the art would render an apparatus remotely close to the claimed invention.

Secondly, there is no motivation or reason to combine Matsunaga and Wahren. The notion that one of skill in the art would modify Matsunaga, based on the disclosure of Wahren, to "incorporate multiple outlets into the dispenser of Matsunaga" in a manner that would teach the present claims is simply implausible. To do so would go against the point of Matsunaga. The Examiner could only have made such a conclusion based upon improper hindsight reconstruction.

A critical aspect of Matsunaga is to dispense liquid without waste in a precise manner and to “spray an exact amount of the liquid without precipitating solid particles” (Matsunaga, p. 7, lines 16-17). The flow rate is precisely controlled to only dispense a desired amount of liquid (*Id.*, *et seq.*). By modifying Matsunaga to have multiple outlets as in Wahren, as the Examiner suggests, would likely make flow regulation impossible. A combination of references that renders a reference unsatisfactory for its intended purposes would not have been obvious. “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).” MPEP § 2143.01.

While Applicants are uncertain as to what a device that combined Matsunaga and Wahren would look like since they pertain to vastly different concepts and structures, at the most the tubes 55 would have to somehow be internal to the dispensing mechanism of Matsunaga since there is no disclosure or any suggestion whatsoever to utilize them as outlet openings. Of course, an important functional aspect of the tubes of Wahren is to restrict fluid flow that is to eventually pass through an outlet 53 (Wahren, col. 5, lines 6-25) and there is simply no use for such a feature in the device of Matsunaga. Accordingly, the Examiner's conclusory statement of motivation is fatally flawed.

Further underscoring the lack of motivation or reason to combine is the fact that Matsunaga and Wahren are not analogous. This is evident by the great disparity between the respective fields and problems addressed by Matsunaga, Wahren, and the present invention. Matsunaga is directed to such problems as coating the inner surface of an alkali dry battery

(Matsunaga, p. 2, lines 16-17; p. 7, lines 11-12), which are completely different from the problems mentioned in the application (cf. application as published, p. 1 lines 18-29) or in Wahren.

Wahren discloses a flow distributor device that is particularly useful in a type of coating apparatus known as a fountain applicator wherein a web, such as paper, is directed across an elongate outlet opening provided in the applicator (Wahren, column 1, lines 33-37).

In contrast to both disclosures mentioned above, the present invention relates to an apparatus for applying in reproducible manner a second layer that is homogenous onto a first layer of a nanocrystalline material, e.g., for a layer of a sufficient width for a photovoltaic element, which layer can be applied in a short period of time. Such an apparatus is to be used for the manufacture of photovoltaic elements on industrial scale (*see* Specification, page 1, line 24 – page. 2, line 6). Matsunaga and Wahren are in different fields of endeavor and are directed to different problems, and are therefore not analogous art. One of skill in the art of designing photovoltaic elements clearly would have no reason to look to either Matsunaga (coating the inner surface of an alkali battery ) or Wahren (coating paper) to address the problems addressed by the claimed invention.

Accordingly, all claims 2-20 are patentable over Matsunaga and Wahren, alone or in combination. Applicants respectfully request reconsideration and withdrawal of the rejections based on Matsunaga and Wahren. Applicants further submit Kiguchi clearly fails to disclose, teach, or suggest the above-mentioned deficiencies of Matsunaga and Wahren, and, therefore, the rejections based on Kiguchi must similarly be withdrawn.

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In view of the foregoing all of the claims in this case are believed to be in condition for allowance. Should the Examiner have any questions or determine that any further action is desirable to place this application in even better condition for issue, the Examiner is encouraged to telephone Applicants' undersigned representative at the number listed below.

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